

3 Glycol Handling Procedure

Written Procedure

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This procedure covers filling or draining of propylene glycol from the COUPP 4-kg hydraulic system at SNOlab. Risks associated with glycol handling include that high concentrations of glycol vapours may cause health effects, and skin and eye contact may cause irritation and absorption of glycol into the body. In addition, there is an increased likelihood of glycol spillage during handling procedures.

The operational goal of glycol handling is to get the cart filled with appropriately de-gassed polypropylene glycol without air bubbles or voids, to adjust the volume of glycol in the hydraulic system, or to drain the system for maintenance or decommissioning.

For all glycol handling, prior to handling,

- 1) Consult the appropriate glycol handling procedure.
- 2) Inform the Lab Coordinator that glycol handling is taking place, and the estimated times over which glycol handling will be performed.
- 3) Place the required tools, glycol containers, plumbing, clean-up materials, and a chair near the work area. Absorbent pads, paper absorber, glycol waste bags, drip pans, and a water spray bottle are required within the work area. If vacuum seals are being made, have Kimwipes available.
- 4) Erect a permissive barrier at least 2 meters from any open glycol handling being performed. Attach caution tags indicating that glycol handling is being performed and that gloves, goggles, overgarments, and respirators (if applicable) are required.
- 5) If software control of the hydraulic system is required, make the PXI workstation accessible to the work area and cover the mouse with paper absorber, or have a helper outside of the work area to control the software.
- 6) Wear suitable PPE. For handling operations, impermeable tear resistant gloves and indirectly ventilated goggles, and disposable overgarments are the minimal PPE required. If a large concentration of glycol vapours are expected, personal respirators with organic vapour (OV) filters are also required. Vapours are released during degassing operations or when a glycol container is ventilated.

During glycol handling,

- 7) If you have to leave the work area, ensure that your footwear is free of glycol. Use paper absorber and water to clean boots. Remove your gloves when leaving the work area.

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- 8) If glycol is spilled, immediately cover it with an absorber. Clean it up, or avoid stepping in it until a cleanup can be performed.

After handling glycol and before removing PPE, in order

- 9) Ensure all glycol containers are closed.
- 10) Clean out glycol residue from any used containers. Use absorber to remove glycol, then rinse the container with a water spray and dry the container. A respirator is normally required when cleaning glycol containers.
- 11) If your gloves are contaminated with glycol, change them for clean gloves.
- 12) Cleanup any spills with absorber, rinse with water spray, and dry.
- 13) Ensure your boots are free of glycol, clean them if required.
- 14) Dispose of gloves and overgarments and remove the permissive barrier.
- 15) Continue cleaning up the work area.